

**National Renewable Energy Laboratory
Request for Proposals Number RCQ-1-31605**

“University Research in Crystalline Silicon Photovoltaics”

REQUEST FOR PROPOSALS

READ THIS DOCUMENT CAREFULLY

This solicitation is being conducted under the streamlined procedures for competitive subcontracts established by the National Renewable Energy Laboratory (NREL).

NREL will award a subcontract based on the following.

- All Statement of Work (SOW) requirements being met
- The best combination of:
 - Technical factors (based on qualitative merit criteria)
and
 - Evaluated price (or cost)

Issue Date: February 7, 2001 Due Date: April 13, 2001 Time Due: 4:00 p.m. Mountain Time

Technical Questions must be received in writing no later than March 7, 2001 and can be faxed to Liz Surek (303) 384-7329, or sent via e-mail to liz_surek@nrel.gov

- 1. Solicitation Type** Best Value Selection
Fixed Price

Submit offers to and Request information from the NREL RFP Contact
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- 2. NREL RFP Contact**
- Liz Surek, Subcontract Administrator
MS 2713
National Renewable Energy Laboratory
1617 Cole Boulevard
Golden, CO 80401-3393
Phone: (303) 384-7354
Fax: (303) 384-7329
Email: liz_surek@nrel.gov

3.a. Project description

The National Renewable Energy Laboratory (NREL) invites you to submit a proposal in response to a Request for Proposals (RFP) entitled “University Research in Crystalline Silicon” in accordance with the requirements and conditions set forth herein. NREL is a national laboratory operated for the Department of Energy under a teaming arrangement among the Midwest Research Institute, Battelle Memorial Institute, and Bechtel National, Inc. A complete project description can be found in the Statement of Work (see NREL website below).

Information on research activities funded by the DOE PV program is available in the document *U.S. Department of Energy Photovoltaic Energy Program Contract Summary—Fiscal Year 1999* (DOE/GO-102000-0976). It is available on the National Center for Photovoltaics Web site (<http://www.nrel.gov/ncpv>). The document provides information on all projects funded during that year by the DOE PV program.

For Offerors unfamiliar with the DOE National Photovoltaics Program, we strongly recommend reading *Photovoltaics—Energy for the New Millennium: The National Photovoltaics Program Plan for 2000--2004* on the NCPV web site (<http://www.nrel.gov/ncpv/pdfs/25847.pdf>). This document also contains the vision, strategies, and goals of the PV Industry Roadmap 2000--2020. It is important for Offerors preparing their proposals to understand how the R&D funded through this RFP is part of a balanced program of technology activities, yielding progress in the near-term, mid-term, and long-term.

3.b. Project Requirements

The offeror must be a U.S. educational institution.

Offerors may include in their proposals research activities to be performed by or conducted in collaboration with National Center for Photovoltaics (NCPV) technical researchers. However, neither the NCPV technical researcher nor the NCPV program management shall make any commitment prior to subcontract award, either orally or in writing, to perform such research activities or collaborations. References within a proposal to research activities to be performed by or in collaboration with NCPV technical researchers will not be considered, either favorably or unfavorably, during the evaluation of the Offeror’s proposal. Therefore, Offerors should ensure that the subcontract effort can be successfully completed and fairly evaluated independent of the proposed research activities to be performed by or conducted in collaboration with NCPV technical researchers. The NCPV program management recognizes that after subcontract award the technical researchers at the NCPV must perform some research activities, such as measurements and characterizations on samples and subcontract deliverables. Further, this solicitation envisions that after subcontract award, the teams described above may coordinate research activities among the successful subcontractors and NCPV researchers.

The offerors funded by the program shall conduct their operations in an environmentally safe manner. The improvement of research operations to reduce waste and to conduct R&D in a safe work environment may be elements in the proposed work effort.

4. Proposed subcontract award and period of performance

It is the intent of NREL to award 6-8 firm fixed price subcontract(s) under this solicitation. The anticipated period of performance is thirty-eight (38) months. Funding availability will be approximately \$800,000 total per year for three (3) years, with a **maximum** of \$150,000 per year, per award.

5. Competitive negotiated subcontract using Best Value Selection

This solicitation shall be conducted using Best Value Selection that results in an award based on the best value combination of (a) highest evaluated qualitative merit and (b) lowest evaluated price (cost) of the offers submitted.

Best Value Selection is based on the premise that, if all offers are of approximately equal qualitative merit, award will be made to the offeror with the lowest evaluated price (cost). However, NREL will consider awarding to an offeror with a higher evaluated price (cost) if the offer demonstrates the difference in price (cost) is commensurate with the higher qualitative merit. Conversely, NREL will consider awarding to an offeror with a lower evaluated qualitative merit if the price (cost) differential between it and other offers warrant doing so.

6. Qualitative merit criteria for Best Value Selection

The Statement of Work (see NREL website below) in this Request for Proposals serves as NREL's baseline requirements that must be met by each offer.

The qualitative merit criteria establish what NREL considers the technical factors valuable in an offer. These qualitative merit criteria are performance-based and permit selection of a higher priced offer that provides higher qualitative merit.

The following qualitative merit criteria will be used by evaluators to determine the technical value of the offer in meeting the objectives of the solicitation.

Each qualitative merit criteria and its assigned weight are provided below.

6.1 Technical Quality and Relevance of the Proposal

1. The extent to which the proposed research has the potential to contribute to DOE's and NREL's long-term PV goals of developing low-cost, high-performance, reliable photovoltaics.
2. The extent to which the proposal responds to one or more of the research issues described for each team in the Statement of Work (see NREL website below) focusing on A. conductive pastes, B. hydrogenation, C. mechanical properties and yield, D. selective emitters, or E. low lifetime regions. Proposals for fundamental scientific research on other issues related to crystalline silicon materials will also be considered responsive.

3. The extent to which the research approach has been developed and potential problems have been anticipated in the proposed research, as well as the explanation and soundness of the proposed research to overcome the potential problems.

6.2 Capabilities of the Offeror

The availability, qualifications, and past performance of the proposed technical personnel, as well as the resources, experience, and flexibility of the proposing team.

The qualitative merit criteria provided above are listed in order of their importance. Criteria 6.1 will be given higher merit than 6.2.

7. Program Policy Factors

NREL will consider the following program policy factors in making its competitive range determination and final negotiation rank order. This is in addition to the Qualitative Merit Criteria (above). These programs policy factors are not weighted.

- a. Due to budget limitations, it may not be possible to fund universities for every team's research activities. Therefore, it may not be reasonable, for the program's viewpoint, to fund research activities for every team.
- b. Consideration will also be given to fundamental research proposals not related to the five team activities if significant long-term benefits are evident.

8. Price (cost) evaluation for Best Value Selection

After evaluation of the qualitative merit criteria, the following price (cost) evaluation will be used to determine the best value of the offer in meeting the objectives of the solicitation.

The combined qualitative merit value will be considered substantially more important than the price (cost).

9. Evaluation process

NREL will evaluate offers in two general steps:

Step One—Initial Evaluation

An initial evaluation will be performed to determine if all required information has been provided for an acceptable offer. Offerors may be contacted only for clarification purposes during the initial evaluation. Offerors shall be notified if their offer is determined unacceptable and the reasons for rejection will be provided.

Unacceptable offers will be excluded from further consideration.

Step Two—Discussion, Selection, Negotiation, and Award

All acceptable offers will be evaluated against the Statement of Work (see NREL website below) and the qualitative merit criteria listed above. Based on this evaluation, NREL has the option, depending on the specific circumstances of the offers received, to use one of the following methods of selection:

- (a) make selection(s), conduct negotiations, and make award(s) without discussions;
- (b) conduct parallel negotiations with all offerors and make award(s);
- (c) conduct discussions with all offerors, select successful finalists, conduct parallel negotiations with successful finalist(s), and then make award(s);
- (d) conduct discussions with all offerors, conduct parallel negotiations with the finalists, select successful finalist(s), and then make award(s);
- (e) select successful finalists, conduct successive negotiations, and make successive selections and awards;
- (f) make no award(s).

10. Proposal preparation information

- a. The proposal response will determine the capability to participate in this procurement. The proposal response should be specific and complete in every detail. The proposal should be practical and should be prepared simply and economically, providing straightforward, concise delineation of capabilities necessary to perform the proposed project that meets the areas of interest covered by this solicitation.
- b. Formatting instructions
 - A page is defined as one side of an 8 ½" x 11" sheet of paper.
 - Use a 12-point font.
 - Maintain at least 1-inch margins on all sides.
 - Copies may be either single or double sided.
- c. The proposal should contain the following items:
 - The proposal must include a title page, including the proposal title and RFP number, name of your organization and principal investigator (with postal address, telephone and fax numbers, and email address). The title should be succinct and capture the essence of your offer.
 - Brief Statement of the Problem and its history (maximum one page)
 - Statement of Technical Approach (maximum five pages)
 - Brief Statement of Anticipated Problems that the offeror recognizes and recommendations for how they may be overcome (maximum one page)
 - A Proposed Schedule with Statement of Expected Results for major project tasks (maximum one page). The proposed schedule for the R&D will include milestones and deliverables. Milestones may relate to understanding developed as a result of the R&D on critical issues affecting the progress or redirection of the R&D. Technical reports shall constitute the principal deliverables but additional deliverables can be material samples or devices demonstrating the progress or status of the research effort.

- Capabilities (maximum one page). Describe the availability, qualifications, and past performance of the proposed technical personnel, as well as the resources, relevant research facilities, experience, and flexibility of the proposing team.
 - References and Bibliography (maximum one page). Relevant references may be cited, but do not include copies of referenced articles in the submission.
- d. A **technical proposal** in an original (unbound) and ten (10) stapled copies directed toward meeting the requirements of NREL's Statement of Work (see NREL website below) and qualitative merit criteria (see item 6 above). The technical proposal shall be organized in sections as stated above in 8-c. Each section shall contain the maximum number of pages listed above (resumes not included in page count) and the total proposal shall not exceed ten (10) pages.
- e. A completed "**Price/Cost Proposal**" form in an original and ten (10) copies submitted with the offer (see NREL website below). An individual offeror's price/cost proposal standard format can be used if the data included is substantially the same as the NREL form. The offeror's price/cost and delivery terms must be valid for 120 days from the date of the offer. The price/cost proposal should include support documentation for all categories of the proposed price/cost. The price/cost proposal should separate price/cost for lower-tier subcontract(s) and include support documentation for all categories of the proposed lower-tier subcontract(s) price/cost. The price/cost proposal should also include a copy of a current Indirect Rate Agreement. (See Price/Cost Proposal preparation instructions NREL website below).
- f. A completed "**Representations and Certifications**" form in an original and one (1) copy. (see NREL website below).
- g. A cover letter including a **summary statement** indicating acceptance or any change with reason of the proposed Statement of Work. (see NREL website below).
- h. A cover letter including a **summary of deviations/exceptions** (if any) to the subcontract schedule and the standard terms and conditions and/or the intellectual property terms and conditions in the appendices. The offeror will explain any exceptions (including deviations and conditional assumptions) taken with respect to the subcontract schedule and terms and conditions. Any exceptions must contain sufficient amplification and justification to permit evaluation. Such exceptions will not, of themselves, automatically cause an offer to be termed unacceptable. A large number of exceptions or one or more significant exceptions not providing any obvious benefit to the Government or NREL may, however, result in rejection of such offer as unacceptable.

- i. This solicitation does not allow the submittal of facsimile or electronic proposals.
- j. This solicitation does not commit NREL to pay costs incurred in the preparation and submission of a proposal in response to this RFP.

11. Solicitation Provisions—full text provided

a. Late submissions, modifications, and withdrawals of offers

Offers, or modifications to them, received from qualified organizations after the latest date specified for receipt may be considered if received prior to award, and NREL determines that there is a potential price (cost), technical, or other advantage, as compared to the other offers received. However, depending on the circumstances surrounding the late submission or modification, NREL may consider a late offer to be an indication of the offeror's performance capabilities, resulting in downgrading of the offer by NREL evaluators in the technical evaluation process. Offers may be withdrawn by written notice or telegram (including mailgram) received at any time before award. Offers may be withdrawn in person by an offeror or an authorized representative, if the representative's identity is made known and the representative signs a receipt for the offer before award.

b. Restrictions on disclosure and use of data

Offerors who include in their proposals data that they do not want disclosed to the public for any purpose or used by the government or NREL, except for evaluation purposes shall—

1. Mark the title page with the following legend:

“This offer includes data that shall not be disclosed outside the Government or NREL and shall not be used or disclosed—in whole or in part—for any purpose other than to evaluate this offer. If, however, a subcontract is awarded to this offeror as a result of—or in connection with—the submission of this data, the Government or NREL shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting subcontract. This restriction does not limit the Government or NREL's right to use information contained in this data if obtained from another source without restriction. The data subject to this restriction are contained on pages [insert page and line numbers or other identification of pages] of this offer”; and
2. Mark each page of data it wishes to restrict with the following legend:

“Use or disclosure of data contained on this page is subject to the restriction on the title page of this offer.”

c. Disclaimer

NEITHER THE UNITED STATES; NOR THE DEPARTMENT OF ENERGY; NOR MIDWEST RESEARCH INSTITUTE, NATIONAL RENEWABLE ENERGY LABORATORY DIVISION; NOR ANY OF THEIR CONTRACTORS, SUBCONTRACTORS, OR THEIR EMPLOYEES MAKE ANY WARRANTY, EXPRESS OR IMPLIED, OR ASSUME ANY LEGAL LIABILITY OR RESPONSIBILITY FOR THE ACCURACY, COMPLETENESS, OR USEFULNESS FOR ANY PURPOSE OF ANY OF THE TECHNICAL INFORMATION OR DATA ATTACHED OR OTHERWISE PROVIDED HEREIN AS REFERENCE MATERIAL.

d. Solicitation disputes

The General Accounting Office and the Department of Energy do not accept or rule on disputes for solicitations for Requests for Proposals issued by Management and Operating Contractors for the Department of Energy (operators of DOE National Laboratories). Should an offeror have any concerns regarding the NREL solicitation process or selection determination, the offeror may contact Marty Noland, Advocate for Commercial Practices, at (303) 384-7550. NREL will address each concern received from an offeror on an individual basis.

12. Solicitation provisions—incorporated by reference—limited access

This solicitation incorporates one or more solicitation provisions by reference with the same force and effect as if they were given in full text. The following documents can be downloaded from the NREL **limited access** website at <http://www.nrel.gov/extranet/contracts/> or the NREL RFP Contact (see item 2) will make full text available upon request.

- Statement of Work dated January 26, 2001
- Sample Subcontract Schedule
 - Fixed Price

13. Solicitation provisions—incorporated by reference—general access

This solicitation incorporates one or more solicitation provisions by reference with the same force and effect as if they were given in full text. The following documents can be downloaded from the NREL **general access** website at <http://www.nrel.gov/contracts/rfps/> or the NREL RFP Contact (see item 2) will make full text available upon request.

- NREL Standard Terms and Conditions:
 - Appendix B-2, dated 07/24/00

- NREL Intellectual Property Provisions:
 - Appendix C-2, dated 10/22/98
- NREL Representations and Certifications for Subcontracts, dated 04/30/99
- NREL Price/Cost Proposal Form and Instructions, dated 11/01/00